Chapter 4
Supplemental Environmental Analysis

4.0 Introduction

This chapter provides updated information on the affected environment, environmental consequences, and mitigation measures associated with the resource topics discussed in Chapters 3 and 4 of the June 2000 Final EIS. Each section in this chapter includes a summary of the approach and methodology used to examine the need for and, if necessary, obtain updated and supplemental information. Each section also includes a discussion of the environmental consequences associated with the proposed build alternatives and the No-Build Alternative, as well as an assessment of a future no-build scenario. This chapter only presents supplemental and updated information based on changes that have occurred since publication of the Final EIS. Information presented in the Final EIS that did not change has not been reproduced in this document.

The following provides a brief discussion of the study area and the project alternatives evaluated in this chapter.

4.0.1 Study Area

The study area is located in the Great Salt Lake Valley region of Utah. The two dominant geologic formations of this area are the northern Wasatch Range and Great Salt Lake. The limited land resources between these two formations support developed suburban cities, highways and arterial streets, railroad tracks, major utility corridors, industrial and commercial development, refineries, mining operations, agricultural, and recreation opportunities.

More specifically, and as described in the Final EIS, the study area for the proposed action is located in Salt Lake and Davis Counties, and includes portions of Salt Lake City, North Salt Lake, Woods Cross, West Bountiful, Centerville, Farmington, and Kaysville (Figure 4.0-1). In general, the study area is bounded on the east by I-15 and the Denver & Rio Grande (D&RG) and Union Pacific Railroad (UPRR) tracks, and on the west by Great Salt Lake and the associated wetland complexes. The northern limit of the study area lies just north of the I-15/US-89 interchange in Kaysville, and the southern limit extends just beyond I-80. However, to facilitate complete evaluation of environmental impacts, the study area boundary for the following resource areas was modified. Specific modifications to the study area boundary are described in the *Affected Environment* subsection for each resource area.

- Section 4.1, *Land Use*.
- Section 4.3, *Social.*

- Section 4.5, *Economics*.
- Section 4.8, *Air Quality*.
- Section 4.9, *Noise*.
- Section 4.12, *Wetlands*.
- Section 4.13, *Wildlife*.
- Section 4.16, *Historic and Archaeological Resources*.
- Section 4.18, *Visual Resources*.
- Section 4.19, *Energy*.
- Section 4.21, *Cumulative Impacts*.

It should be noted that the southern limit of the study area extended to I-80 in the Final EIS to allow for evaluation of project alternatives in and around the Salt Lake City International Airport.[1] Although none of the project components associated with the alternatives evaluated in the Supplemental EIS extend south of I-215, the southern boundary of the study area remains at I-80 to facilitate comparison with the data presented in the Final EIS (see Chapter 1, *Purpose of and Need for Action*).

4.0.2 Great Salt Lake Ecosystem

The proposed action generally borders the southeast shore of Great Salt Lake. Technically, the Great Salt Lake Ecosystem (GSLE) encompasses the full drainage basin of Great Salt Lake, including the ancient lakebed and drainages of Lake Bonneville and the complete watersheds of the Bear, Ogden/Weber, and Jordan Rivers. However, for this Supplemental EIS, the geographic extent of the GSLE is defined as Great Salt Lake and the wetlands/wildlife habitats surrounding its shoreline.

As described in the Final EIS, the GSLE provides important habitat for a variety of birds, reptiles, amphibians, and mammals, some of which are rare and have small geographical distributions. The wetlands of Great Salt Lake account for 75 percent of all wetlands in Utah, and the shores of Great Salt Lake are internationally important because they are a link in the Pacific Flyway for migratory waterfowl, and a link of the Western Hemisphere Shorebird Reserve Network. Between 2 million and 5 million birds use the lake yearly, including a wintering bald eagle population of approximately 500 birds. Great Salt Lake also provides extensive recreational opportunities in the area, including waterfowl hunting, bird-watching, and boating opportunities.

Great Salt Lake is also one of the four largest terminal saline lakes in the world and supports an economically viable brine shrimp industry. Salinity is decreasing in the southern half of the lake, adjacent to the proposed location of Legacy Parkway, and increasing in the northern half. Development

[1] In August 2004, the Utah Transportation Commission (UTC) confirmed that the decision disclosed in the Final EIS to eliminate from consideration a highway west of the Salt Lake City International Airport, designed to connect the proposed Legacy Parkway to 5600 West (now Mountain View Corridor), was still valid (Abeggien pers. comm.). In addition, it should be noted that the WFRC long-range plan does not include a highway west of the Salt Lake City International Airport.

encroaching towards the lake has also played a role in diminishing and stressing the function and hydrology of the ecosystem surrounding the lake.

4.0.3 Alternatives Evaluated

As described in Chapter 3, *Alternatives,* the Supplemental EIS presents detailed impacts of the following six alternatives.

- **No-Build Alternative**. NEPA requires evaluation of a no-build alternative to illustrate what would happen if a proposed action were not taken. For this Supplemental EIS, the federal lead agencies have determined to present information in two ways for the No-Build assessment.

  - Existing conditions.

    Under existing conditions, the No-Build Alternative consists of transportation improvements detailed in the *Wasatch Front Urban Area Long Range Transportation Plan Update, 2004–2030* (long range plan) (Wasatch Front Regional Council 2003a), but does not include the Legacy Parkway project, the Legacy North project, or I-15 reconstruction (i.e., full widening of I-15 to 10 lanes). The following long range plan components are included in the existing conditions No-Build Alternative: commuter rail, widening Redwood Road from two to five lanes from south of I-215 to 500 South, enhanced bus service, and various local road improvements. This alternative is different from the No-Build Alternative evaluated in the Final EIS in that the WFRC long range plan has since been updated to include commuter rail and other capacity-enhancing projects.

  - Future conditions.

    The future conditions No-Build Alternative is presented to illustrate the development that would likely occur if Legacy Parkway were not constructed, as well as the roadway and infrastructure improvements accounted for under the existing conditions No-Build Alternative. The land use aspect of the future condition is based on discussions with land use planners from cities and counties within the study area. Impacts associated with the future conditions No-Build Alternative are described qualitatively in this chapter because the nature and timing of these improvements are not known at this time.

    The future conditions No-Build Alternative was not noted as a separate discussion in the Final EIS; instead, it was combined with discussion of the existing conditions No-Build Alternative under the No-Build Alternative discussion. The future conditions No-Build Alternative has been separated out in this Supplemental EIS to better distinguish between project-related impacts and impacts associated with future actions that are independent of the proposed action, but that are likely to occur.

- **(Modified) Alternative A**. (Modified) Alternative A, hereafter referred to as Alternative A, follows the same alignment described for Alternative A in the Final EIS (Figure 3-2). However, the right-of-way width evaluated in the Supplemental EIS has been reduced from 100 m (328 ft) to 95 m (312 ft), and potential footprint modifications would further reduce impacts within the right-of-way. Additional minor modifications have been made to the Alternative A alignment since preparation of the Draft Supplemental EIS. The impact information presented in this Final Supplemental EIS has been updated to reflect those modifications.

Following are the design refinements that have been made to Alternative A since publication of the Draft Supplemental EIS, as described in Section 3.4.2, *Modified Build Alternatives A, B, C, and D/E*, of the Final Supplemental EIS.

- The right-of-way at 500 South was changed for Alternative A to match Alternative E because more advanced design supported a determination of the actual area needed.

- The right-of-way of Alternative A was changed to match Alternative E from Parrish Lane to the I-15/US-89/Legacy Parkway interchange in Farmington. This altered the Alternative A right-of-way slightly to incorporate the redesign of Parrish Lane. This includes crossing Parrish Lane over the mainline at that interchange and crossing 1250 West over the mainline as an overpass.

- **(Modified) Alternative B**. (Modified) Alternative B, hereafter referred to as Alternative B, follows the same alignment described for Alternative B in the Final EIS (Figure 3-2) and is evaluated at the narrower 95-m (312-ft) right-of-way width, and potential footprint modifications would further reduce impacts within the right-of-way.

- **(Modified) Alternative C**. (Modified) Alternative C, hereafter referred to as Alternative C, follows the same alignment described for Alternative C in the Final EIS (Figure 3-2) and is evaluated at the narrower 95-m (312-ft) right-of-way width, and potential footprint modifications would further reduce impacts within the right-of-way.

- **Alternative D (Final EIS Preferred Alternative)**. Alternative D, which was the Final EIS Preferred Alternative, follows the alignment described for the Preferred Alternative in the Final EIS (Figure 3-2) and is evaluated at the 100 m (328-ft) right-of-way, the original right-of-way width evaluated in the Final EIS. Although it has been dropped from further consideration, analysis of this alternative is presented in this chapter for some resource topics to illustrate changes in impacts between the Final EIS and the Supplemental EIS. It has been included in this chapter for comparative purposes only.

- **Alternative E**. Alternative E follows the same alignment as Alternative D (Figure 3-2), but is evaluated at the narrower 95-m (312-ft) right-of-way width, and potential footprint modifications would further reduce impacts within the right-of-way. Additional minor modifications have been made to the Alternative E alignment since preparation of the Draft Supplemental EIS. The impact information presented in this Final Supplemental EIS has been updated to reflect those modifications.

  Following are the design refinements that have been made to Alternative E since publication of the Draft Supplemental EIS, as described in Section 3.4.2, *Modified Build Alternatives A, B, C, and D/E*, of the Final Supplemental EIS.

  - The right-of-way of Alternative E was modified slightly in the area of Parrish Lane and 1250 West to accommodate the new design for these local roads.

  - The right-of-way for Alternative E was changed at the I-15/US-89/Legacy Parkway interchange slightly to match the Alternative A right-of-way.